CALIFORNIA DEPARTMENT OF TRANSPORTATION
NORTH REGION OFFICE OF SURVEYORS
DUTY STATEMENT

CLASSIFICATION TITLE Transportation Engineering Technician	**DISTRICT/DIVISION/OFFICE** North Region/ Engineering Services and Surveys / Office of Surveyors / Marysville (Unit 309)	
WORKING TITLE Transportation Engineering Technician	**POSITION NUMBER** 903-201-3175-	**EFFECTIVE** September 2006

As a valued member of the Caltrans team, you make it possible for the Department to improve mobility across California by being innovative and flexible; reporting to work regularly and on time; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.

GENERAL STATEMENT: At the first and full journey working level capacity, under close supervision, incumbent performs a wide variety of nonprofessional land surveying work in either an office or field setting; as incumbents progress in experience, they will be assigned more difficult work.

TYPICAL DUTIES:

PERCENTAGE — JOB DESCRIPTION
Essential (E)
Marginal (M)

45% (E) Assist the Transportation Surveyor Party Chief or Transportation Surveyor/Lead Worker in the reconnaissance, planning and execution of assigned survey fieldwork.

Prepare the data collector for different operations and accurately enter the data coding in accordance with recognized Caltrans and Regional practices and procedures; precisely set all observation targets and accurately report all height measurements.

Determine the most appropriate terrain and topographic points to be surveyed on design data surveys and properly operate a prism pole during observations on all types of surveys, such as Land Net surveys, Construction Surveys, Utility surveys.

Communicate to the Instrument man or data collector operator the description and character of each observed point and the height of the prism pole.

Perform all calculations incidental to all construction staking, such as slope staking, bank plugs, finish grade, string line and determine the most appropriate location for any construction reference stakes to be set, the most appropriate equipment to be utilized, the acceptable methods and procedure to use.

Mark all stake cards or stakes (lath), and document all staking performed accurately, legibly, and neatly.

25% (E) Set, or recover, and tie survey control, land net or Right of Way monuments in accordance with Caltrans and Regional practices and procedures. Provide complete, accurate, neat and well organized documentation using Caltrans and Regional note forms, such as Survey Monument control sketches, Survey Control and Land Net Schema, Corner records, Construction Staking diagrams.

15% (E) Set out traffic signs and perform traffic control and lookout duties in accordance with Chapter 2 of the Caltrans Surveys Manual and the Caltrans Safety Manual. Clear brush and tree limbs, as permitted and needed.

10% (E) Operate the survey crew's field computer and the programs supplied for it, including the accurate and effective review and editing of survey observation data. Transfer needed survey data to and from the Total Station data collector (Survey Controller) and to and from data transfer medians or storage devices. Review and edit survey control data and coding, computing field closures and adjustments, review and edit terrain and topographic data and coding to assure accuracy and completeness.

5% (M) Assist in maintaining equipment and material inventory and determine equipment maintenance and replacement needs and any materials needed by survey crew.

SUPERVISION EXERCISED OVER OTHERS:

None.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS:

Knowledge of: Fundamental surveying, mathematics, and basic science as applied to surveying; methods of precise survey measuring; use and adjustment of precision surveying instruments; procedures, equipment, and materials used in surveying, including conventional and state of the art; mapping and drafting techniques; mathematics and procedures used in plane surveying; computer applications and usage; Code of Safe Surveying Practices; monumentation of facilities; construction and right of way procedures and policies as they relate to surveys.

Ability to: Perform the less complex nonprofessional field and office surveying work; make precise survey measurements; make and interpret the less difficult survey calculations; research, analyze, check, and adjust survey data; research and compile evidence and documentation for boundary determination; do mapping and drafting; analyze situations accurately and take effective action; prepare clear and concise reports and correspondence; operate precise surveying instruments (conventional and state of the art); establish and maintain friendly, business-like relations with those contacted in the course of the work; communicate effectively. Effectively organize and use work tools and time caring for equipment and materials by following good work practices for vehicle and personal safety. Follow good work practices operating and maintaining all precision survey instruments used by the survey crew, such as the digital level, the Total Station instrument and its data collector, GPS receivers, and all associated cabling and batteries.

Analytical Requirements:
A Transportation Engineering Technician on a survey crew must analyze situations accurately and adopt an effective course of action. This position requires the ability to make analytic judgments pertaining to all phases of nonprofessional land surveying.
The incumbent must have a strong background in field surveys and computational skills as a basis for these analytical judgments. Examples would be to assess the terrain at a survey location to determine the best way to perform the work efficiently and effectively analyze the results of survey computations for the accuracy and completeness, plan for his/her safety and that of the crew and the traveling public, review the collected field data for accuracy and completeness, and ensure that administrative documents are prepared completely and accurately.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS:

A Transportation Engineering Technician must be responsible for the accuracy and completeness of the survey work that was subject to his/her decisions. Errors and omissions in survey data could require costly returns to the jobsite for corrections and adversely affect project delivery. Errors in construction stakes could lead to costly changes.

PUBLIC AND INTERNAL CONTACT:

A Transportation Engineering Technician on a survey crew deals with the traveling public during signing and traffic control operations on the highway. A Transportation Engineering Technician has contact with property owners at field locations and redirects all inquiries to the Party Chief, requests information from other departments as directed by the Party Chief and has contact with other governmental agencies and the public.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS:

This position requires the use of heavy-duty work clothes and safety boots. Manual labor can be expected to be intense. Position requires using cutting tools to clear brush, which can be dense and could include poison oak. Survey locations are often set in tick infested terrain. Incumbent can expect to drive survey stakes and markers with sledgehammers for extended periods. Extensive walking, often over steep and uneven terrain, while transporting stakes, supplies, and equipment is necessary. The incumbent can expect to work under very noisy conditions and is required to be tolerant of working within very close range of high-speed traffic and heavy equipment.

WORK ENVIRONMENT:

Nearly all work assigned is in the field in remote areas, usually along the traveled way of highways and in heavy construction zones. Work must be performed in all weather conditions, including high heat and freezing cold.

I have read and understand the duties listed above and can perform them without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this

with the hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

_____

Employee Name (please print) Employee Signature Date

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

_____

Supervisor Name (please print) Supervisor Signature Date

* **ESSENTIAL FUNCTIONS** are the core duties of the position that cannot be reassigned
* **MARGINAL FUNCTIONS** are minor tasks of the position that can be assigned to others